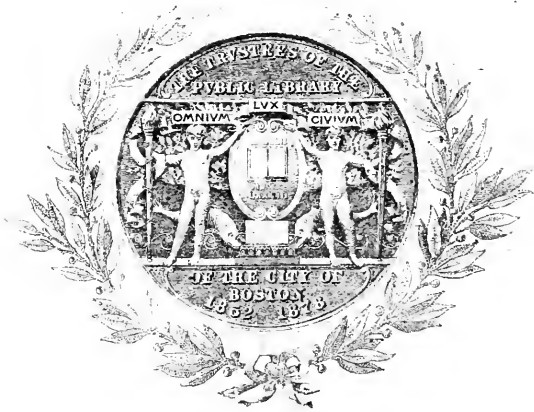
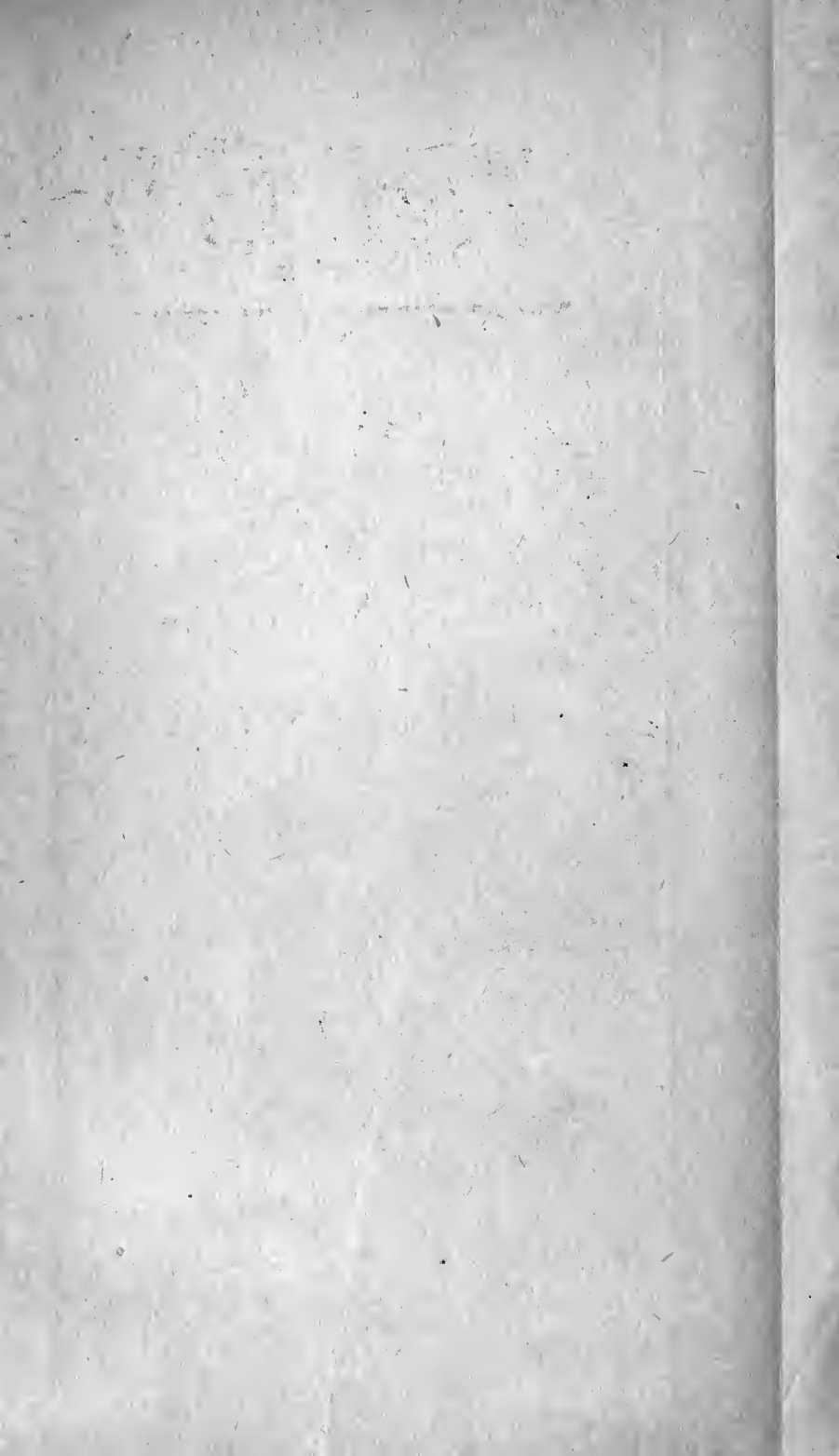



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A PLEA FOR PURE WATER:

BEING A LETTER TO HENRY WILLIAMS, ESQ.,

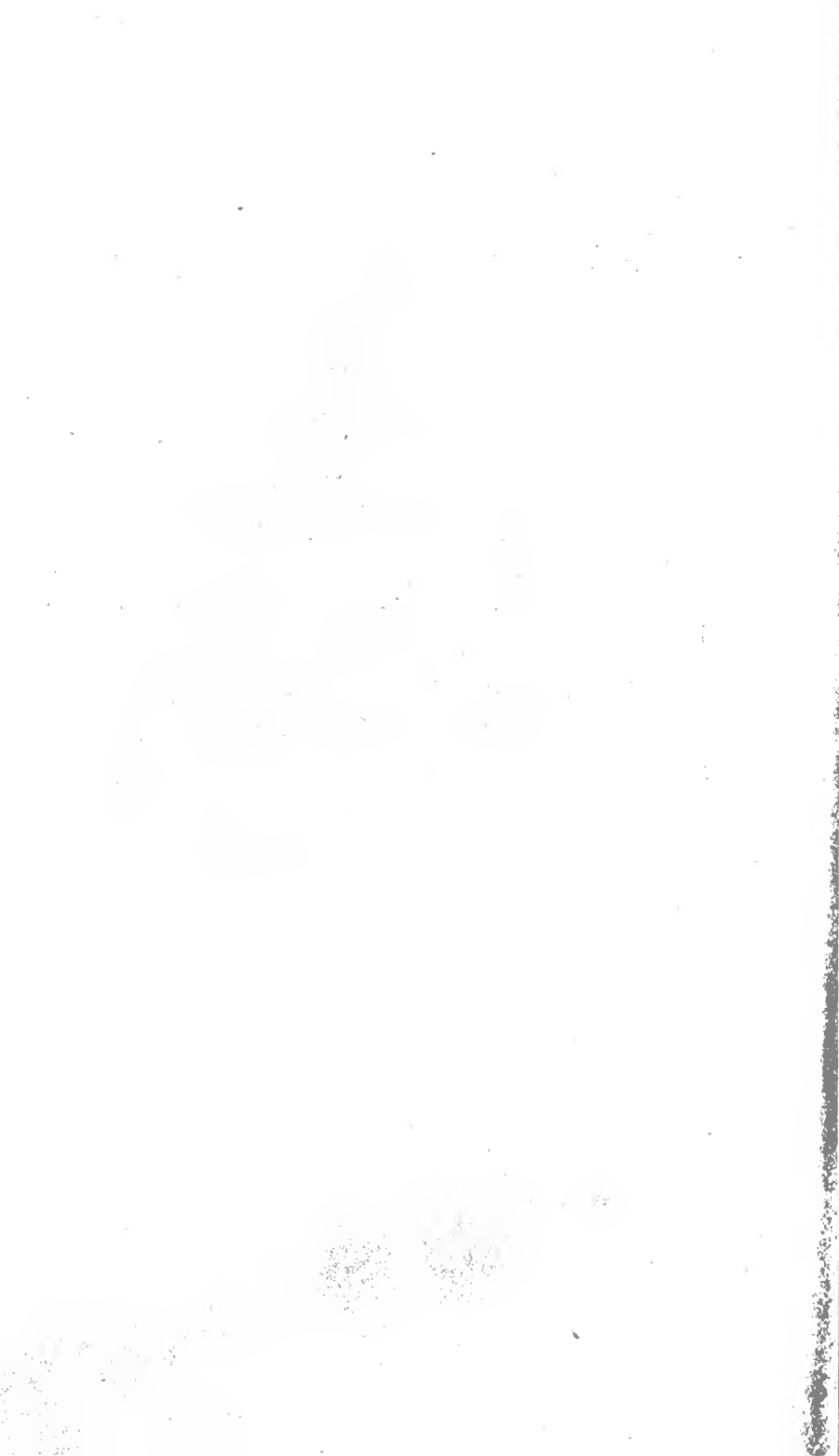
BY

WALTER CHANNING:

WITH AN

ADDRESS "TO THE CITIZENS OF BOSTON,"

BY MR. H. WILLIAMS.



13

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BY MR. H. WILLIAMS.

BOSTON:
S. N. DICKINSON, PRINTER.
WASHINGTON ST.

TO HENRY WILLIAMS, ESQ.

DEAR SIR:—The interest you have so long and so faithfully taken in the question of supplying Boston with pure and soft water, has led me to address to you this letter on the subject. Perhaps at no time in the history of this long vexed question, has the public want of water been so deeply and widely felt, or so strongly expressed. It has reached all classes, and is daily becoming more pressing and more emphatic. I write you, to offer such views as I have on the reasonableness of the demand, and on the ease with which it may be satisfied. I shall endeavor to show:—

That the water in constant use in this city from natural springs is not pure, and so is not suitable for the uses to which it is put:

That it is deficient in quantity:

That the quantity is constantly lessening, while the quality is growing worse:

That the city is able to supply itself with the best water, and that such water is within our easy reach:

I shall notice some of the objections which have been brought against the plan now under discussion,—speak of the advantages of the aqueduct proposed; and, finally, allude to the sources of supply which have been commended to the notice of the city government.

I shall be obliged to consider the subject in detail, for it is my purpose to state facts. I would avoid exaggeration, for it is my desire to make true issues. I would state the evil under which we labor as strongly as the case authorizes, for its remedy is certainly at hand. Without farther preface, I proceed to my task.

My first proposition is, *That the water used in this city from natural springs is not pure, and hence is unfit for use.*

The proof of this proposition is on every side. Here we are on the “verge of the salt flood,” our whole shore bathed in the ocean. The soil is sand or gravel, allowing free course to fluids every where; and, to aid the introduction of salt water, portions

of the common sewers receive it at every tide. The pressure of the tide is so great that in thickly populous parts of the city, and in which the population is rapidly increasing, houses are every day built upon piles, the pressure of the tide making it too expensive to lay other foundations; or, where others are used, the piles become absolutely necessary to support the boxing for excluding the sea. Now look at this state of things. The springs, in such neighborhood especially, (and, in its measure, it is so every where,) are so impregnated with salt, and other impurities which tide-water brings with it, that, in these places, it is unfit for use, and is not used. But salts exist in the best water in such a soil, surrounded as it is by the sea. The product is *hard water*,—*brackish water*,—*salt water*. It will not combine with soap, but decomposes it, and so is only made more impure by the soap mixed with it. It cannot be used for washing either the skins or the clothes of the people. You cannot be made clean by such water, in any use you may make of it. It cheats you every day into the idea of being cleaned because you are “washed,” when the truth is, but for the ceremony of half wetting yourself, you are hardly a whit cleaner after the process than when you began.

Then, for cooking, how wholly unfit is our spring water for this important business of every-day life. The least amount of chemical knowledge—and every body studies science now-a-days—will serve to show how unsuitable is such water for such uses. It hardens the meat you attempt to boil in it. It alters the character of vegetables, often making them unpalatable, hard, and heavy, and so of difficult digestion, and unfavorable to health. Articles of food which depend on flavor for much of their recommendation, have this quality diminished, and, in some instances, they do not seem to be the same articles when prepared in hard or soft water. Now people may ask, “Why this exaggeration of what is of such little importance? Are we the most unhealthy people on earth, or, rather, are we not the most healthful? The water is hard, is salt, is disagreeable; but we have, among us, drank it a good while, and we are alive to say so. Why all this talk about nothing?” I reply, that that is not “nothing,” but *something* quite worth talking about and correcting too, which is of every day every hour annoyance, and which time makes worse instead of better. The long endurance of what is disagreeable, or which answers its purpose very imperfectly, is never to be made for a moment an argument for its continuance, if, by proper means, it can be removed, and replaced by that which will answer the whole purpose. It is not a reason that the people of a large and very wealthy city should submit to a constantly recurring annoyance,—one, too, which involves health and other grave interests, because they have long patiently

endured such things. And they will not, if, in the apprehension of the whole evil, and in the possession of means to remove it, they determine that it shall be removed.

Secondly. Water is not only made impure by the admixture of salts, but our mode of DRAINAGE must add to its impurity. Drainage is by sewers beneath the surface, or by gutters in the streets, or on the surface. The method adopted is important in its connection with the springs of a place. There are cities in which waste and foul water is made to flow on the surface in order to secure the greatest purity to the water. You see how readily this mode answers the purpose, if there be such a supply of water as to wash the gutters daily. The common mode of drainage is by sewers,—gutters beneath the surface. This city has adopted this mode. How are springs injured by sewers? Sewers are so made, that their liquid contents pass readily from them into the surrounding loose soil. How loose this is, may be seen any day where a sewer is *laying*,—caving in only being prevented by boarding the sides. Now what are the contents of these sewers? This may be learned any day by standing in the neighborhood of an open *sess-pool*, especially when the workmen are emptying one. But what do they contain, and give very slow passage to? The whole filth of the city. All the liquid refuse about our houses, and, within a few years, the liquid contents of vaults, and the whole of water-closets, run freely into the sewers. Now is it possible, but that such an amount of foul, most offensive liquid, running freely into the soil, and such a soil as I have described, must find its way to springs and make them impure? Why, the sea water of the harbor, which receives all that flows to it by the sewers, and which reaches the springs, is itself rendered foul by the same cause. Just at low tide, with an east wind raging, walk on the edge of the city, and you will learn how foul the water there must be. Do you not recollect that some years ago a very valuable mineral spring somewhat suddenly burst up into a well, in Hawkins street, if the place is as well remembered as is the fact. Thousands visited that celebrated spring. Many, many were cured of very grievous maladies. The fame of the water spread far and wide. But, alas! for the spring, and for its owner, it was discovered that the mineral impregnation was derived from a source of such questionable character (if question it could be) that some serious mistake must have been made concerning its medicinal qualities; and in a day, nay, in a moment from the discovery, its virtues faded away. Has not this portion of city history a wider application?

Look, for one moment, at the extent of surface of the yard room of our modern houses, and of so many of an earlier date, and learn how impossible it must be to preserve springs pure. The

house, the cistern, the well, and the privy, are in the closest proximity. There they stand huddled together, and see how near are the conveyances of their various filth, their *excretory ducts*, as the anatomist might call them. They all run so near, and enter so shortly into each other, that they soon form a common trunk, rolling on the slow, foul current to the common sewer in the street. Could there have been a better contrivance for making springs impure?

My second proposition is, *That the present supply of water is wholly and totally insufficient for the demand, and that great inconvenience and danger are the direct results.*

What need, Sir, have I to argue this proposition for a single moment? Who does not know and feel its truth in the experience of every day? But we all know that the mere abstract knowledge, or, what is the same in such cases, the admission of an evil, has in it no promise of its abatement. "We all know that such a thing is wrong. It has been so for centuries. Why disturb us with its remedy? Let us alone. Let us rest. We are for the 'oldness of the letter,'—trouble us not with the 'newness of the spirit.'" So men have always said. When, in America, men woke to the extent and ruin of the intemperance of this whole land,—when Samuel Dexter and Nathan Dane had that meeting, in February, 1813, in the hall over the Boston Bank, in the good old Town,—when these men met to consider if any thing, and what, might be done to put a check only—they designed nothing more—to this national vice, and deep disgrace, men wondered what was coming. When the evils of intemperance, its deep guilt and utter wretchedness, were talked about and written about, and lectured about every where, the current argument was, "We know all this. Who doubts that intemperance is a very bad thing? Why disturb the public peace about what is every man's own private business, and of the consequences of which every body is full of practical knowledge? Our almshouses, and jails, and workhouses are full of drunkards, and their families living preachers to the people. Why send out these hired sober people, to tell them what they know already so well?" But the men were sent out. They told of the evils of intemperance. At last, the drunkard himself, having been healed as by a miracle of his awful disease,—the voluntary dethronement of the reason,—the drunkard became the apostle of temperance, and by the story of his own experience has converted millions. There was knowledge before, but it was a "dead letter." It moved to no true effort. It left the evil just where it had been for ages. So with the Peace movement, which also began in America. Every body said, "Who doubts the miseries of

war?" But the story of those miseries, told in thousands of ways, has roused nations to the study and apprehension of those evils, and to settled purposes of bringing them to an end. So of the Anti-Slavery movement,—of the Prison Discipline organization,—in short, of every effort made by the individual or by the masses, it has been proved by all these, that the mere admission, the mere knowledge of an evil is no assurance that it will be removed. Men must work if they would eat. They must work, and talk, and write, too, if they would DRINK PURE WATER.

The want of water of every kind, except Salt water, is universally felt, and universally declared. What there is of exception to this will be stated in its place. Wells and cisterns have rarely, if ever, been so frequently empty as now. Every day increases the inconvenience. The drought is not confined to our neighborhood. We have accounts of it from near and remote regions. The winter is coming, and nothing but uncertainty about supply exists. It is a remarkable fact, that wells, which have never before failed in this city, but which have supplied many families, are now so low that their owners are obliged to refuse water to others. Said a friend, "I unlock my gate at seven in the morning, and leave it open for an hour or two, that many poor families and others may get a partial supply for the day. There is no other supply for them. My gate is then locked. Were not this done, and were I not apparently cruel, or unkind, I should have no water for myself or for others." I believe there are but two wells, which can be relied on, in the whole and crowded district of Broad street. The Well-street well is locked up most of the time, and crowds may be seen there waiting for the water. Water for daily family use is sold in this city,—so many tickets for a dollar being given out,—notice to this effect being on the pump. A person had lately a cistern in a store cellar, for which he had no use, and was about to have it filled up, in some change he was making in his property. He gave notice that the water in the cistern was at any one's service who would come for it. His premises were crowded with poor people, and it was not without emotion, you saw women and little children going for the water with buckets, and pails, and boxes, and barrels, and the smallest vessels, too, to get a little water, which they so much needed, for which they had paid, it may have been, but a little of which they now might, in the general rush and scramble, get without paying for it. Said Dr. Ware to me, a day or two since, when talking of the present effort to furnish pure water to the city, and which, as a physician, he felt was so much needed,—said he, "I have rarely been more moved than I have been in Ann street, during a rain, in seeing the children, with all sorts of vessels in their hands, catching the falling drops, themselves liter-

ally soaked through in the labor." Go where you will, ask whom you will, the answer is every where the same. The want of water is felt every where,—never so seriously as at this moment in which I am writing. Said a medical friend to me, "the poor, in Boston, suffer as much for water, in summer, as they do for fuel, in winter." I shall never forget what a poor woman once said to me, in this connection. She, with her husband and six children, lived in a wretched tenement, in one room, and to which was attached neither well nor cistern. There was, then, no possibility of keeping such a place, or the clothes of the inmates, in a state at all approaching being clean. One day I found the floor had been washed, and I could not but ask how she had contrived to do it. "Mrs. —, across the way yonder, gives me her dirty water washing days!" And who do you suppose was the father of a family so utterly destitute as was this of the smallest comforts, nay, absolute necessities, of life? He had been a drunkard for many years. He told me he had drank more rum than any man in Boston. Four years ago he signed the pledge; and he said, the other day, as he sat in my parlor, "I have never broken my pledge. I signed it in secret. You know how I have been obliged to live, but I have kept the pledge, and I will keep it forever." Is not such a man worthy all honor? Who of us have fought such a fight, or so kept the faith? and yet a more loathsome house, a more suffering family, I have never visited. But such firmness of purpose, or a mind which could make and keep it, will enable the possessor to rise somewhat. It has done so for this poor man. But what a blessing would water be to such a family. The wife ekes out the small income by washing, when water can be bought or begged, and so helps pay the rent.

I have spoken of failure of wells and of cisterns. We have one other means of supply,—Jamaica Pond. The Boston Aqueduct was laid, I believe, between forty and fifty years ago. The city had then about one third its present population. The aqueduct was taken by comparatively a few families, and, doubtless, answered its purpose tolerably well. But, even in its early history, so imperfectly was it laid,—so unsuited were the junctures of the logs to resist the pressure of the water, that they were constantly bursting, so that I recollect very well the remark, that quite as much water was wasted by these "burstings" as was used by families; and they always deprived such families of the water until they were repaired. Cisterns gave a supply, at such times, and well water was abundant, and more pure than now. But the city has greatly increased. It has, of late, mainly increased on new made land, for ages flooded by the sea. Wells, in such a district, would be sunk at great expense, and the water, if obtained, very impure. This, and the earlier but rapid increase

of the people, has led the Aqueduct Company to extend its operations greatly. To avoid *wastage*, they have substituted ample iron mains to bring the water to the city, and they have carried their distributing pipes, or logs, almost every where. It was attempted to supply the city with water from that one source,—Jamaica Pond. The company, very few in number, knew, every man, how much demand existed, and how fast it increased. They sunk logs between twenty and thirty feet, in at least one place, below the surface, to allure the distant stream, not up hill, but along that lazy level; and, for a few days, the water did drag its slow length along, and did furnish a small supply. But it soon gave out; and not only so, the generous distribution of it to new regions, soon lessened the quantity in others, and, at last, the whole dependency fell into a common comparative destitution. The company had killed the Goose which laid the Golden Eggs.

I was promised some facts, touching this matter, from a large establishment in my neighborhood, which would have showed how much time, money, and log were wasted in a pretty recent attempt to supply that, and neighboring establishments with water. I am sorry that a promise, very kindly given, should have been forgotten, for on such a subject facts are of the last importance. But in place of the statement, I see from my window almost daily, the hogshead, its contents costing \$2 50, with its hose, emptying its "clayey" contents into the neighboring cistern. This may somewhat answer the purpose of another supply. But in want of the expected statement in writing, I have oral accounts, almost without number, of failures of the aqueduct. I have been told, and there can be no question of its truth, that, within a few years, and especially latterly, houses have been, and daily are built, which have no other supply of water than the aqueduct. They have neither wells nor cisterns, and are in places in which it would be very difficult to procure well water. The process is this: the owner has a log, from the aqueduct pipe, carried into the cellar or kitchen for a very small sum, and does no more. He sinks no well, makes no cistern, and so is saved much expense. His tenant either pays the aqueduct bill, or the owner does, and puts it into the rent. Now compare this with the earlier arrangements. Then was the well,—the never-failing well,—and the large cistern, and, lastly, the aqueduct. The cistern water was, comparatively pure, instead of being, what it now is, a cold infusion of soft coal soot, and hard coal ashes,—as disagreeable a compound as one could wish to bathe his face and body in of a summer's or a winter's day. What can be more striking than this difference between the older and the present arrangements for domestic wants and comforts! The aqueduct fails. It fails either entirely, or on certain days in each

week. Said a housekeeper to me, the other day, "We have no water on *Saturday*, because *houses* are washed, and the water is drawn off for that purpose. We have none on *Monday*, because *clothes* are washed that day, and the water is drained for that." I absolutely asked for a glass of water, on one of those days, during a protracted professional visit, and in the details of which water might be useful for others, as well as myself, and was told the aqueduct "did not run." It was a hot day. What, asked I, will you do for water? The house was near the Lowell Depot. "O, we send to Leverett street!" was the answer. Said another, "We are in constant trouble about the water. We have to watch the aqueduct, sometimes most of the night, and catch the water as it runs. But for this we should often have none." Think of "*sitting up*" with an aqueduct log, down cellar! "I was about to enter upon business," says Mr. A., "in which I use a good deal of water. When I hired my place, Mr. B. asked if I would have the aqueduct or a well, former tenants having depended upon a *suction* in a neighbor's well. I preferred the aqueduct. The fixtures cost over a hundred dollars. The water ran for a time, but now for months I get none. I am promised the water every day, and folks hope it will run. But this is all I get. Why, Sir, Mr. C., up there, and Mr. D., across the way, I can name hundreds, are dreadfully in want of water. Mr. C. will give over a hundred dollars a year for it." I was attending a sick person. One day I saw a water bucket at the front door. I asked how they were off for water. "We have none, said the widow woman. Since my daughter has been sick, I have been obliged to give twenty-five cents a barrel for water. Yesterday I hired an Irish woman to get me two buckets of *soft* water. She had to go to the end of Granite Wharf, before she could get any." (The woman lives in Thacher street, not far from Charlestown Bridge.) "Was not that hard?" Some of the pamphlet writers, or the newspaper ones, may make a pun out of this last word in the question. But they would have seen little cause of such merriment in that woman, as she spoke of her want of a necessary of life, and in this wealthy city too.

I need not multiply similar statements. I saw, a day or two since, what I never met with before, namely, barrels on the sidewalk with "soft water for sale," in chalk marks, on the heads. Every thing around us tells the same story of the want of water. It becomes more emphatic every day. I trust it will be heard, and its lesson now obeyed.

The danger referred to in this proposition is from fire. I give this subject a distinct place, because it deserves it, and not because there can exist any doubt concerning it. The danger is to the person and to property. It must be increased to both, according to the material employed in building, and the want of

water. We have among us wooden buildings going up in all directions. Many of these are large and are in the neighborhood of very valuable property. We have no law which can prevent this. The danger must increase daily. Here are facts within the knowledge, or easy reach, of every body. And yet, whether we shall have an abundant supply of water, which will never fail us, is made a very serious question, and every species of argument used to prevent the city's obtaining such a supply. I do not mean here to argue the question of danger. It may be recurred to when considering the cost of an abundant supply, and the numerous expenses and losses which such outlay would certainly prevent. I do not mean here to speak of the premiums paid for insurance, or show how small they would be, or how universal insurance would become, if the risk of fire were greatly diminished, as it would be, by an abundant supply of water. I only refer here to the existing danger from fire, and how that is daily increasing. People may think they have some security in the "Fire Plugs," which are pointed out by finger-boards in so many streets. But the security, I assure them, is only in the finger-boards; for water, in most instances, can be none; or can, in no useful sense, be available in time of need.

My third proposition is, *That an abundant supply of pure and fresh water directly promotes health and longevity, and as surely tends to diminish, or prevent, pauperism.*

This proposition hardly needs labored argument. The connection between health and long life,—their dependence on habits of personal cleanliness, and the best preparation of food for digestion, and healthful nourishment, have been abundantly proved. The proof comes to us from the earliest history, and lies broad cast over every succeeding period. The Levitical law every where enforces the obligation of cleanliness, and makes washing a religious rite, or a preparation for religious rites. Eastern nations adopted much of the practice of the Jews in this regard. At a later period physicians enforced the same. Hippocrates has left a treatise on "Waters." Mahomet made washing one of his ritual observances. Christianity, by the water of baptism, admits man into its faith and its promises.

Antiquity is full of the proof of our proposition. Ancient Rome lives and will live in the monuments of her care of individual, and public health. Her fourteen aqueducts, according to some, and twenty, according to others, brought pure water in exhaustless profusion, distributing it every where, supplying families and baths, from three thousand fountains, or outlets, for ornament, and for use. Well might that city be called the "City of Fountains." The Campagna is covered with the ruins of old

aqueducts, while two remain for daily use now, which were built more than two thousand years ago, and are as firm, and as little injured by time, as if built yesterday. Rome carried with its conquests what contributed so much to the public benefit at home. Look at the Pont du Gard, in Nismes, France, the work of Agrippa; at the Claudian aqueduct, in Lyons; at the splendid structure at Alcantara, in Spain, and learn how true was that world's Empire to its mighty mission. Then, for the purpose of removing at once from Rome all refuse matters which might render the air impure and hurt the public health, examine the Cloacæ of the Tarquins, built towards three thousand years ago. These structures are in the most perfect preservation. They are many feet high, receive all the filth, and were kept constantly clean by receiving the overflowings of the Tiber, and the washings of the surrounding hills. When we see these monuments of a great state, and which have come to us through so many ages, do we not see some reason for the designation of that metropolis of the ancient world, and rightly call it, to this day, the "Eternal City"?

Every later state and city which has had true regard for the public health, has followed the example of ancient Rome. Our own times are full of illustration and proof of this remark. I was struck with the truth of this, in what within a few years has been done in Marseilles, for *irrigation* only. An aqueduct is building, or finished there, which has already cost nearly half a million pound sterling. London is supplied by its eight water companies. Come nearer home, and look at the Fairmount Works in Philadelphia. The Schuylkill not only supplies the city with its water, but absolutely does all the work in its distribution. The other day I learned from a friend, a resident in Philadelphia, that for a very small sum, a few dollars a year, his whole establishment is supplied with pure and soft water. "My cistern," said he, "holds *three hundred barrels*. I have it filled in winter when the river is frozen over, and after its yet liquid portion has had time to deposit all impurities. The annual temperature of the earth in which the cistern is placed, is between 50° and 60° of Farenheit, so that I have pure, and sufficiently cool water for constant use, and nearly a barrel of it a day. This water is principally used in cooking, and for drinking, as the aqueduct supplies water in profusion for all other purposes." Now this is true luxury. And what effect, pray, has this abundant supply of pure water, had on the public health, which our proposition asserts to be one of its results? It is notorious that the health of Philadelphia has constantly increased since the means of personal and general cleanliness have been so increased. The yellow fever, has not, I believe, appeared in that city in a single instance since the Fairmount Works were

completed. How was that city formerly ravaged by the epidemic form of that disease? And how common were single cases of it met with in the years just before those works were finished? Another friend, an inhabitant of Portsmouth, N. H., gave me, a few days since, an account of the aqueduct in that place. For four or five dollars a year he has an abundant supply for domestic purposes, and for constantly watering his garden, and was told he might have a fountain in his garden without additional charge, upon condition that, if the supply should ever diminish, he would agree to give up his fountain.

The great work of the age is the Croton aqueduct, which supplies New York with water. Says an English writer, "The advantages of such an undertaking as this great public work are not confined to the community which executes it. Its history furnishes a most profitable study to the philanthropist and the engineer, the deviser and the instrument, of similar schemes of public benefit in other countries." This is the true, and the only view which should be taken of such noble works, the means of such wide good. It is grateful to record such distinguished approbation, coming as this does from so able a source. Compare it with what has been the burden of remark on the Croton Works here, since the new attempt has been made by the city government, to supply this city with water. While the expense, the dollars and cents, have been talked about, and written about, till one is almost nauseated by the reiteration, not a word has been said of the real character of that splendid monument to the civilization, and to the philanthropy, of our sister city. *It is a national work.* It is a work which will carry into the time long to come, the enlarged intellect which planned, and the noble spirit which completed it. Who does not thank that munificent city that it has made such noble use of its honorable wealth? and what community would shrink from the office of following so worthy an example?

In 1744, when the population was 20,000, the subject of better supplying that city with water had forced itself on the public attention. Many plans were discussed, but nothing done. Population increased. Yellow fever was a frequent visitant. In 1832 came the cholera, and in a short time swept off, I think, 10,000 persons. This started men as from a long sleep. In 1833, a commission was appointed, and in 1835 reported finally in favor of bringing in the Croton water. "This stream derives its waters from some twenty natural reservoirs, presenting an aggregate surface of nearly 4000 acres. At a spot forty miles from New York, where the minimum flow equals 27,000,000 gallons in twenty-four hours, and the medium 50,000,000, it was found possible, by a dam raised thirty-eight feet above the natural level, to throw back the waters six miles, and form a fountain reservoir

of 400 acres." The water was admitted into the reservoirs constructed in the city for their reception, on July 4th, 1842, very nearly a century from the time when the public attention was so strongly attracted to the subject. Willingly would I copy more of an excellent notice, which lies before me, of Mr. Tower's "Illustrations of the Croton Aqueduct," and which work has received such high commendation abroad; but I must content myself with recommending it to all who feel interested in this most interesting subject. Cheerfully would I notice at length what is doing abroad, especially in England, in regard to public health. Dr. Southwood Smith, and Lord Ashley, are among those who are devoted to this great work, especially in its relations with poverty. The new Registration Law, and the Reports which it has produced, are worthy the highest consideration in these regards. I cannot omit referring to the Reports of Mr. Barrister Chadwick, in this connection. They are most valuable contributions to the same noble undertaking, and reflect the highest honor on their author. The proposition speaks of pauperism in its connection with the public health, and that it will be diminished or prevented by means which promote health, and that an abundant supply of pure water was among the chiefest of these means. Our subject, Sir, gets new interest from the truths contained in this proposition. No body who is acquainted with the social habits of the poor in this city, who does not daily meet with proof of this, my third proposition. The poor here suffer for water. Said a friend, whose profession gives him ample opportunities for observation, "The poor suffer as much for water in summer, in Boston, as they do for fuel in winter." They live on the least possible amount of it. The dark lanes and alleys they live in are rarely cleaned. They are never washed. Their wretched, dark, ill-ventilated rooms are scarce ever washed. Their persons are foul. Their clothing dirty. Every thing about them is most wretched, most unfit to minister to self-respect, or to promote physical health, or moral progress. They become — are they not made — intemperate by such hard trial of virtue, such stern discipline, which is daily dealt out to them by those who alone possess the means of making happier and better that stern lot? I speak here from knowledge. I have heard the complaint of the want of water, as a means of preserving health, and of obtaining a living. No body knows, and no body can learn what deprivation means, who does not see the actual workings of a system which denies to the people the use of water. Men sit by their firesides, and talk of what is done in the Capitol. But they know nothing of the misery around them. There is a form, indeed, in which they are made to *feel* somewhat about it. It is when the tax-gatherer comes for their portion of what supports the State

Prison,—the House of Correction,—the City Watch,—the Fire Department,—the House of Industry, and the City Jail, which their personal neglect of great interests directly produces. Crime comes of such pauperism, and of the intemperance with which it is so often associated. Disease directly comes of such destitution of a necessary of life, of being. I was very much struck with a remark of my Philadelphia friend, above referred to. He is a man of fortune, and has what money can buy. Said he, "Before the Fairmount Works, and before this supply of pure water, I was in the daily habit of using intoxicating drinks, and scarce ever drank water without mixing them with it. Since the introduction of that water, I have almost abandoned the use of such drinks. Days and weeks pass without my using them at all. *I do not want them.*" Here is most valuable testimony on the dependence of temperance on pure water, and that in abundance. My friend is no "fanatic,"—he is no "reformer," a word of ill omen now-a-days, "unmusical to Volscian ears." He is a man of profound science, and of most benevolent dispositions, and rejoices in the possession, and daily use of a great blessing. If the 19th of Sept. 1844, did no other, or more good, than to bring here this intelligent witness to the blessing of pure water to a city,—to the dependence of good health, and good morals upon it, and its agency in diminishing poverty and crime,—for one I would thank those who took in hand so much work, and labored so hard.

Let me recur to the subject of quantity of water necessary for common domestic purposes. We hardly know how great this is, until circumstances make it necessary to limit the quantity used by the supply, or the quantity on hand. A friend, an officer in the navy, a man of much observation, told me, that, until he had been put on short allowance, he was wholly ignorant of the quantity of water necessary for the comfort or supply of one person. He had been limited to *half a gallon* a day. His mess of eight drew four gallons. This was to serve all occasions, cooking, washing, and drinking. With the strictest economy, they could scarcely reserve a junk bottle, about a pint and a half a day, out of the whole quantity allowed the mess. It will seem hardly possible that half a gallon of water daily should be insufficient for one man, but the fact of the "short allowance," places this beyond question. It makes but little odds to health or comfort, whether the "short allowance" is ordered by a commander of a ship of war, or is enforced by the negligence of a community in providing for its nearest and most pressing wants.

I have now finished that part of my undertaking which regards the necessity which exists for adopting measures at once to sup-

ply Boston with pure and soft water. I proceed to consider other topics which belong to, or grow out of, the subject. I shall speak of the *Objections* which have been made to this enterprise, and reply to them, as I proceed. It is my purpose to state objections fairly, and to reply to them in the spirit which they deserve. There is a wide and common interest in the subject. This will save it, I trust, from the personal, and from unusual prejudice.

It is objected, in the first place, *That, to supply the city with water, a Debt must be created.*

This is true. Money must be borrowed, and a Debt produced.

Debts are created in two ways.

First. Money is borrowed on ample security of real estate, and it is so used as to produce a revenue, which will not only pay the interest, but produce also a sinking fund, which in time will extinguish the debt. Here is an investment which can hardly be otherwise than profitable to the parties concerned.

Second. Money is borrowed on personal credit. It is used in operations, of the success of which, there cannot be any certainty, but which depend entirely on contingencies. This is a speculation.

Now, to which of these belongs the debt which this city must incur to introduce Pure Water in quantities fully equal to the demand? I answer to the first, and I proceed to show this. I am informed on what should be the best authority in the municipality, that the real estate belonging to the city corporation will cover the whole debt which may be required for the object in view. No risk is incurred by the government in prosecuting it. But there will be no steps taken towards its execution, except under the direct authority declared by vote of the citizens. And now, what was the entire amount of their taxable property at the latest valuation?

I answer,

Amount of Taxable Real Estate, 1843,	\$67,673,400.
“ “ Personal “ “	42,372,600.
	<hr/>
	\$110,046,000.

Here we have, over and above the property owned by the corporation, and which it has been said will cover the debt for water,

one hundred and ten millions and forty-six thousand dollars, which will stand pledged for the same debt. Now, what amount will be necessary for the object? The largest amount which has been named, and which deserves attention, is *two millions and a half of dollars*. At four per cent., and at which rate, such a loan could now be readily obtained, the annual interest will amount to *one hundred thousand dollars*.

Suppose the whole of this to be collected by tax. What would this amount to on each individual, or on each family? The population is estimated to be 115,000. Allow five to a family, and we have 23,000 families. A tax of four dollars and a fraction, on a family, would pay the interest. Now, does not every family, the poorest in the city, pay as much as this for the *no supply* of the present day? What they do not pay for by the bucket, they pay in rent. But suppose this estimate greatly exaggerated. If less than one half of these families, say, 10,000 only, were to take the water, and at the amount actually paid by large and by small payers for the aqueduct, and the interest of the loan, and every incidental expense would be amply provided for. Much less than an average of \$10 would do this, making the assessment for those who have least demand for water, not more than five or six.

Again: What was the amount of tax assessed for the present financial year? I answer,

	\$712,379 70.
Of warrants for,	685,000 00.
	27,379 70.
Excess of means,	

Here we have a balance over the assessment, which remains for the very purpose about which we are now making inquiry.

Another fact should have a prominent place in this consideration of city debt, produced by the introduction of an abundant supply of water. I refer to the annual loss to the city by fire, and the amount paid for premiums of insurance. It is here referred to because, what saves expense in such a direction, affords means for diminishing the debt incurred to prevent such expense. I find that the account of the Chief Engineer exhibits actual losses, by fire, from Sept. 1, 1843, to Sept. 1, 1844, to the amount of \$183,208. Insurance on the same, \$95,777.

Another item, in the same connection, is the present expense of the Fire Department. For the year 1843-4, the expense of this Department was about \$40,000.

Here we have, then, \$40,000, the amount paid the last year to the Fire Department. Who doubts that this amount would be diminished by the abundant supply of water proposed? Nay, would not the city expenses be diminished, while the public safety would in proportion be increased? The annual dimi-

nution of the debt, which may be confidently looked to, would, of course, bring about a diminution of expense.

Secondly. It is objected, that the debt under consideration, must be provided for by the rich, both interest and principal; and that it would be unjust for the many, the people, to create a debt, the liabilities for which would fall on the few.

It has been stated above, that the value of the real property of the city corporation is believed to be ample to cover the whole expense of bringing in water. In the event of paying off the debt, the aqueduct would become the property of the city. In this case, the use of the water might be made free, or a small annual tax upon it would, in the least objectionable manner, furnish a large revenue to the city. But putting aside these, and kindred considerations, let us look at the objection as it stands in the above head. Is it true? Is it true, that the rich would have to pay the interest on the debt proposed to be created? I will suppose a case which will better answer the question than an argument.

Suppose Mr. — pays \$5000 tax on real estate. He lives in a house valued at \$10,000, and for this, pays tax, \$50 a year. Now, who pays the remainder, \$4950? Does he pay it? It is on his tax bill. He gets credit for a large tax. I knew a man who asked his tenant to allow the tax on the house he hired to be charged in his bill, as a favor. It was important that he should *seem* rich, or that he should be known as being rich, and the tax bill was a test. Not only does Mr. — get credit for his large tax, but he scolds about it as exorbitant. But who pays that \$4950? The tenantry of Mr. —. He does not pay a cent of it. The poor woman who hires a room for fifty cents a week, in a tenement belonging to Mr. —, and in which he would not stable his coach-horses for a night,—that widow woman, who lives and supports her children by washing, when the rains from heaven supply her great need, or she can buy water of a wealthy neighbor,—that woman pays a part of that tax. Nay, she pays in proportion to her means, and what of shelter they buy for her, more than the rich owner of her house, more in proportion than any of his rich tenantry.

We are a Christian community, I believe, and there are three verses in the book of the Christian doctrine and faith, which may serve to illustrate my meaning.

“And there came a certain poor widow, and she threw in (into the treasury) two mites, which make a farthing.

“And he (Jesus) called *unto him* his disciples, and saith unto them, Verily I say unto you, that this poor widow has cast more in than all they which have cast into the treasury.

“For all *they* did cast in of their abundance; but she of her want did cast in all that she had, even all her living.”

The parallelism between the two cases is complete, except in the object of the two poor widows in their act. The widow in the Bible, cast her all into the treasury of God, for religious and charitable purposes. Our widow gives hers to pay the city tax of her rich brother.

There is, finally, another view in which this matter of debt should be regarded, and especially, when it is the price, the purchase money of a great and *permanent* interest. The proposed aqueduct is not to be made for ourselves, for this city as it is, or for this age. It is to be made also for the coming time, the long future, a blessing beforehand, and in the beginning and completion of which the future has no concern. In view of these questionless statements, whose debt is it, about which so much has been said, and the shadow of which, if that which has no substance can have one, is scaring the city from its propriety, and beneath which men are laboring to prevent one of the most important measures ever attempted by any city? Whose debt is it? I say it is the debt of the city in all the days of its being, till it is paid. We of to-day work, and pay money in this matter, and for what? that when this generation has died out, the city shall destroy that aqueduct, and our successors build for themselves another? No such thing. We are working, in all we do, for our successors, and paying for them, too, and we cannot help it. What is the present but the child, the product of the past? So shall we be in relation to the future,—its great parent; and as we are living in the mighty legacy of the whole past, so shall we bequeath what we are, and what we do, to the future. Whose debt then is it? It is the debt of all who are, or who may be, till it is paid; and most grateful will the long future be that we created such a debt, which, in its product, will be to that future so great a blessing.

I remember something of the history of the Hospital, in this city; that monument of public and individual munificence,—of great, and wise philanthropy. In an early day of its being, it was necessary to add to it to meet the public demand, and to spend more money than its resources yielded. The question of debt arose, and well do I remember how it was answered. "We are establishing a *permanent* work," said one of its earliest patrons, and latest friends. "We are providing for the long future. That future will inherit all we may do; let them enter into our labors for them. It is their debt, as it is for their benefit it is incurred. Let us not be stopped at this most important moment of our history, by any such consideration. We will be wise and prudent, but the *public want must be met.*" It was met. And see what is the inheritance of the new-born generation! What has become of the debt? It has died out in the life of the public's great heart; and now, this day, new walls

are rising round the old building, the latest monument of the undying munificence of this city. Do not, do not let us say a word more about debt, when talking of the cost of the means of the widest public good!

Second. It is objected, *That if the water project be carried out, that, to escape the additional tax which the interest on the debt will involve, the rich men will leave the city before the 1st of May.*

In other words, will escape the tax on their personal estate. To support this objection, it is further said, that the rich are not now taxed in proportion to their property, lest they should run away. The objection was made in a public meeting, on the subject of bringing water, in a speech by a citizen opposed to the project. Its support has had frequent place in conversation.

Let us now look at this second objection. If the first were untrue, to some this may seem offensive. But let this pass. The objection reminds me of an anecdote of my early days. A friend had become very careless in many matters which society deems very important, and, going on to violate more and more of the fashionable code, a female friend, who felt much interest in him, told him that people would give him up, "cut" him, in the more modern phrase. Said he, "O, do not be uneasy for me, on that account. I have got the start of them. *I have 'cut' them,—I have given them up.*" It is said that our rich men leave the city already, and before doomsday comes round, and so have the "start" of our third objection.

But why do they run away? The removal is to avoid taxes. Now what does this removal involve, and why does it lead to controversy? The rich man, who thus escapes taxation, leaves behind him his personal estate, his furniture, his library, his palace treasures,—he leaves his bank stock, his deposits, his most important securities,—he leaves warehouses loaded, and groaning with his manufactured goods from half the mills and workshops of the State or country,—he leaves, finally, behind him his stores full of goods, which he comes to town every day to look after. And who protects these vast interests? Who saves them from fire and from plunder? I answer, the Fire Department, which you and I and others are taxed for, and which tax we cannot escape by crossing the county or city line on the 30th of April. We must stay and work as well as pay. The city watch, at a tax of about \$50,000 a year, which our personal estate is taxed for, and which we cannot escape, also protects the absentee's property. In short, Sir, look where you will, into the Health Department, the Police Department, in fine, every where, and you see, at a glance, that those who remain in the city, and whose occupations and condition do not permit them to leave,

do, by the tax they pay on personal estate, contribute in every way to the protection and comfort of those who, having vast wealth, go away, it is said, to avoid paying their taxes, or contributing to expenditures, in the results of which they have the deepest interest.

Is it asked, shall rich men be called upon to pay for the water they do not use? Shall they be taxed for what yields them no benefit? No. They should pay because they *will* use it. They should be taxed because they will derive most important benefit from it. But they go away. Yes. But they also live here; and it is for the vast benefit they will derive from pure water, when they *are here*, that they should pay their part of the expense of getting it for all, and not avoid the expense because they are for a few months away.

But, again. Why do the rich men leave the city? Or why will they do so, as the objection asserts? Is it because their *tax is large*; or because they are *over-taxed*? There is an important difference between the two things. Let us consider them, and the difference will appear. What is *over-charge*, or *over-tax*? It is being taxed for a greater amount of property than is possessed. What is *large*, or apparently excessive taxation? It is when large property is known to be possessed, but the whole amount not known. Here the tax is levied on what is believed to be not beyond the amount possessed by the person taxed. On what is tax levied? On personal and on real estate. How is it ascertained what each man owns of these, of the *personal* in particular. In other words, what is the basis of taxation here? The early word was *doom*. The later is *guess*. By the latter mode, the assessors must in a great measure be governed. True, they have now authority, by law, to ascertain by various documents, what a portion of the personal property is. But even this cannot reach the whole case, and so approximations to accuracy can, in the first place, only be made. The public know what is charged on one hundred dollars. The assessors, by going from house to house, and by every means within their reach to obtain information, *doom*, or tax the people, in exact conformity with the knowledge they obtain, with the principles established by law, and with what they believe a just application of those principles to every case. Here, it would seem, their public function ceased. But no. They now advertise, and for months, and at great expense to the city, too, that their books are open for the inspection of the public; and if any *over-charge* or other error have been made, it shall, upon exhibition of the proper evidence, be corrected. Nay, more; abatement of taxes may be granted in other cases, if demanded by the circumstances, and which, from inadvertence, have not been duly presented.

What ample protection of the citizen against excessive, or

over-taxation! If the assessors err, and in the exercise of a large discretion, and under the circumstances, they may err, the remedy is in the hands of every citizen, the means of the immediate correction of error. Go to the assessors' room, and under oath or affirmation, for a man's word is not taken now-a-days, or on such occasions — give in, in writing, a fair inventory of your property, and if it prove that you have been over-taxed, the excess will be at once deducted. I have done this, and the correction was at once made. I did not choose to live in what seemed to me a lie, in a published, annual falsehood in regard to my property. Such is the remedy for over-tax. Now, suppose it were universally employed. Suppose it were to prove, as in my own case, and especially in the cases in which alleged over-tax produces periodical exile of citizens, — suppose, I say, that the proved real and personal property should not, with the present amount taxed on each hundred dollars, meet the city expenses, one of two remedies at once occur, — either reduce those expenses, or add to the *pro rata* per centage.

What is *large* and so called excessive taxation? A is worth a million of dollars in personal property. B is worth twenty thousand. It cannot be learned with accuracy what A's property is. So, to prevent the appearance of excessive taxation, and to prevent his leaving the city too, as it is said, he is *doomed*, or taxed, on half a million. This makes a very large tax. It seems enormous. It is complained of, and, to avoid a like tax, A leaves the city, on or before the 30th of the next April. B's property is also assessed. It is easily learned what he owns. The approximation may not greatly err. If he be over-taxed, he can easily say so, and the error is at once corrected. But you see, Sir, B is taxed for *all* he owns — A, for only *one half*. I know a case in point. A man was taxed for about \$5000 personal property. This was the *doom*, under the knowledge possessed. Upon examining the bank books under the new law, he was found to own about \$60,000 in bank stock. He was at once taxed for that amount. He never complained of *over-tax* on that \$5000, and I have not learned that he has complained of the tax on the \$60,000. His tax is *large*. But I suppose he knows he is not *over-taxed*. I do not know if he left the city April last.

Now what has this to do with the water project? It has this to do with it. It shows that no reasonable objection can lie against any such increase of taxation as the project may lead to. Excessive taxation has its remedy in a mere statement of the fact, with the proof. *Large* taxation probably never reaches to the whole property, and it is the direct and necessary product of great wealth. It is then one of the inconveniences of excessive riches, to be largely taxed. It is the product simply of excessive wealth. I see no injustice in the tax, because I see no fault in

the possession. Most unreasonable should I regard that opposition to a public measure fraught with the widest and best public interests, which would proceed from either asserted *excessive*, or *large* taxation. For the one, the remedy is at hand. For the other, as above explained, no remedy can be demanded. I have never heard a rich man make the objection we have now considered. I have heard it made *for* the rich, in the public meeting, in conversation, and in the public press. And it has not been contradicted. But this last, is no evidence that what has been so freely said for others, is in any sense approved by them. Men do not always feel called upon to repel groundless charges. I have noticed the objection at so much length, because it is calculated to influence many minds. Threats have their power; and such threats as the alleged objection makes, must have some influence. I have labored to show that the objection is as unreasonable as it is groundless.

Third. It is objected to the project, that the city provide itself with water, *That private companies will do it much better.*

This objection is much urged on the grounds that, there being many companies, they would obtain water from different sources,—that the supply would be more abundant,—that the competition would make it cheaper, and that London is supplied in the same way. Theory and precedent are thus brought in support of this form of objection. I have little to say of the theory. I question much if competition, in just such an interest, would make the water cheaper, or that the supply would be more certain, because of its different sources. I do not believe either assertion well founded, and do not think they require distinct refutation. Let us, then, for a moment, look at the precedent, London. London, then, we are told, is supplied with water by eight companies. And what is London? Do you suppose it to be of the size of Boston, a single municipality of one hundred and odd thousand inhabitants, and under one government? This would not describe London. It has nearly two millions of inhabitants,—as many as eleven distinct divisions, parishes, and districts; many of them independent of each other. We have even *two* Londons, properly so called,—one *within* and one *without* the walls,—the limits remaining, though the walls have long disappeared. So distinct are each, that when Queen Victoria makes a visit to her liege subjects of London, she always finds the gate at Temple Bar closed. Her herald must knock at said gate, and when a satisfactory answer is given to the inquiry within, “Who knocks?” the gate is opened, and the keys of the city are handed to her majesty. Each department has its own water company, as far as water is supplied, and the reason exists in the fact that each has power to supply itself. In the very popu-

lous district across the Thames, including Southwark, Lambeth, &c., I believe no supply by water company has yet been obtained, showing how independent each is of the other. But, let all these things be as they may, I quote a very recent English writer on aqueducts and canals, of questionless authority, for an opinion of what real benefit to London is all this complex apparatus of companies, compared with the supply of water furnished by an American city to its inhabitants. I quote it with the greater pleasure, as it come from a source not noted for its interest in American success. In allusion to what Rome did to secure to the people the blessing of abundant and pure water, and in the presence of the eight water companies of London, the writer says:

“It is not in England that we can find a fit subject of direct comparison with the Pont du Gard, or the aqueducts of Italy. We fear our science has only taught us to be niggardly in its application,—to substitute for *value in use*, *value in exchange*; and to *sell by the quart* what Romans supplied *gratis by the tun*. Till London, with all its water companies, is as well supplied with accessible water as modern Rome is by only two of the aqueducts, whether fourteen, as some count them, or twenty, which ancient Rome possessed, we must content ourselves, Anglo Saxons as we are, with resorting to New York for our wise saw and modern instance, and must lead our readers to drink at the Croton aqueduct.”

It is thus we are taught by a dweller in the midst of those eight “water companies,” that they fail to accomplish their object, and that what they do is at comparatively an enormous cost to the consumers. Let us be taught by such a witness. He teaches us that a city should be the patron of its own great, permanent, universal interests. These should be committed to the charge of no other corporation, company, nor individual. The water it drinks, the air it breathes, the light which blesses it, neither of these should be given in charge to any man, or body of men. If profit can be made of them, let the city make it. It will go from it, from its government, back to the people again, in new forms of usefulness and of blessing; with full interest added, to make its agency more important and more useful.

Fourth. *The present aqueduct, it is said, forms another objection.*

The argument on which this rests, I would consider with the deepest respect. It is that a city aqueduct would be fatal to the old one. That, like the Manhattan, which the Croton strangled, so would our present aqueduct be destroyed by the new one.

We are here referred to an instance of the violation of vested rights amongst us, which stands to the unfortunate credit of the

Commonwealth, and which the history of such acts will never forget. We are told, that the aqueduct is a very valuable franchise, and that, the last year, it yielded forty per cent. to its owners. I have respect for the whole argument, in whatever form. But has not the aqueduct failed of its function? Has it any resemblance to those other interests with which it has been compared? Does it, or, better, can it, supply this city with water? Does it in any degree supply the two or three thousand families, if so many, among which it has been distributed? Have not all these questions been already put and answered, in what has already been said in this Letter? If not, most cheerfully would I enter anew on the discussion. The experience of all great cities abundantly proves, that private water companies have not succeeded, and that they must involve much more expense to the consumer than the public work. It is not because most of the property in our own aqueduct is owned out of the city, and because its proprietors, being non-residents in Boston, can never be taxed in their personal property to aid in defraying the city expenditure,—it is not, I say, on this account alone, or principally, that I should feel called upon to oppose any gross or wilful violation of their rights, they being absent; but because, with the most strenuous exertions, and at much cost, those proprietors have failed to supply the city; and, from the absolute necessity of the case, must everlastingly fail to do it. It is because of this, and of like failure of private bodies, in other cities, to accomplish the object, that it is urged upon the people here never to intrust so important an interest to such or similar agents.

An argument for the objection was offered the other day in conversation, which, to me, had more in it than any other I recollect. I was speaking on the importance of placing the obligation of supplying the city with water where it really belonged, namely, in the city itself. The benefit was to be universal,—the agency in conferring it should embrace the whole. I was speaking with a petitioner for the latest act of the legislature, which gives conditional power to introduce water, to a private company. Said he, “I signed that petition because I want water,—because it is physically impossible for the aqueduct to reach me, and because I know the city will not supply me. Understand what I say. I want it for myself, and for my family. I do not want it for the poor, nor for the rich. I cannot bring it here to my door myself. It will cost too much. So, I have joined with others to get the act. We shall make a stock of it, and sell the water to families enough to pay the interest, &c., and secure to ourselves a supply. You understand, now, just what I want, and how I mean to supply my want. If others have the same, why, they may have their need supplied.” The act was obtained, but the condition of personal liability of the

stockholders for the debts of the company, has prevented the acceptance of the charter, or action under it.

Now there is nothing in this argument to complain of. He who advanced it is desirous to secure to himself a great privilege, which others around him are so indifferent about, that they have not taken the steps to secure it. He has acted just as a man does who puts rods on his house to protect it from lightning. Others care nothing about the matter. He does; and buys and pays for the privilege of not being "struck." He wants water and is willing to pay for it. Let the city supply him and all others.

I have now, Sir, noted some of the objections to the city project of supplying the city with water. I have replied to them. Others are made. It is said, that, the public safety being increased, premiums of insurance against fire will be diminished. This is an objection made *for* the offices. I do not know that one of them, or a single proprietor, ever made such. Increase the public safety and premiums will be less. But, as soon as this is done, insurance is increased. When ice was sold in the West Indies for fifty cents a pound, profits were small. When it was sold for *six* or less, a vast fortune was made out of the winter's growth. Again. Increase safety and diminish premiums, and you increase insurance by policies for buildings which were never before insured. But the objection is too groundless for sober thought.

OF THE BENEFITS FROM THE SUPPLY OF WATER PROPOSED.

These have already occupied us. We have seen them in the increased health and longevity, and in the prevention of pauperism which it promises; in the increased the universal cleanliness of the person, the dress, the house, the street. Look where we may, health and comfort come not as incidental, but as direct products from it. There are economical interests too. Here we are, the beginning, or the ending, of numerous and vast railroads. They are spanning the State and nation, carrying us every where, and bringing every body here. To these roads an abundant supply of pure water is, so to speak, a necessary of life. All other water injures the machinery of motion. The boilers are coated with foreign bodies, the expense of procuring steam directly increased, and the machinery injured. Supply these engines, of such wide good, with pure water. It is your interest to do it, and your investment will make for the city a return of thanks, and of most liberal interest.

But apart from the use, and of which we have said so much,

there is another advantage which will commend itself to all. I refer to water as a means of ornament, and of taste. Construct fountains in public places. Give to the public eye these beautiful objects, and you give tone and purity to the public heart. You increase the amount of safe pleasure; and he or they who do this are benefactors to men. You will not say that these views are fanciful. They have their foundation in the moral nature; and that nature, in these days of morbid excitement, of excessive interest "in those things which do not profit," that nature asks for food by which it may grow into that excellency, beauty, and honor, for which it was made. I cannot go farther now. New York has set us a noble example in furnishing these means of public pleasure and improvement; and at home and abroad, the skill and taste of that great city are in every body's word. Said a friend the other day, "there is nothing finer in Europe." An English writer says in amount the same. Read the following, from "Tower's Illustrations of the Croton Aqueduct," and be in love with the beauty it records:

"To those who had watched over the work during its construction, and looked for its successful operation, this was peculiarly gratifying. To see the water leap from its opening, and rise upwards with such force and beauty, occasioned pleasing emotions, and gave proof that the design and execution were alike faultless, and that all the fondest hopes of its projectors would be realized. The scenery around this fountain added much to its beauty; there it stood, a whitened column, rising from the river erect, or shifting its form like a forest-tree as the wind swayed it, with the rainbow tints resting on its spray, while on either side the woody hills arose to rival its height. All around was nature: no marble basin, no allegorical figures wrought with exquisite touches of art to lure the eye, but a fountain, where nature had adorned the place with the grandeur and beauty of her rude hills and mountain scenery." p. 112.

I have entered into some detail of facts, which bear upon the expense of the proposed aqueduct. I have done so, to show that great expense will not be incurred by doing the work. But I do not suppose that it can be done without cost; nor do I see any reason why people should expect it. I would rest this enterprise on *broader grounds*. I see its necessity in the wide public want. I look for its accomplishment in a wise care for the public good, in generous purposes, in large and true policy. I see this project to supply this city with pure water in its moral relations. It is in these its real importance lies. Look at in, these, and the money power, whether from *without*, or from within, which is put forth to defeat it, ceases to exist.

SOURCE OF SUPPLY.

Many sources for supplying Boston with water are recommended to the public, and with many arguments for each. No one can object to this. The best is demanded, and this can be got only by knowing the whole. The same thing occurred in New York. One plan proposed that the water should be brought from New Jersey. This was only twenty miles from the city, but then the Hudson must be crossed, and its navigation so interrupted, that it would have been necessary to call for the interference of Congress. Other sources were proposed, but at length Croton river selected, deriving its exhaustless waters from some twenty natural reservoirs, having an aggregate surface of 4000 acres. We have no such source as this, and we do not require it. But we have such as, it is believed, will meet the whole present demand, and constitute an ample provision for the future. I will briefly allude to some of the sources which have been named.

The latest source was suggested to me a few days since. A citizen, very anxious for a supply of pure water, and for others as well as for himself, being daily made acquainted with the public want, proposed that a reservoir, of great extent, should be made in the "empty basin,"—that it should be walled and bricked, and that artesian wells should be made in such numbers as to keep the reservoir constantly full, and that the water should be distributed by steam. The cost, he said, would be \$250,000. I asked on what facts he relied in support of his plan. He answered, *experience*. "I live at the north end," said he. "I was in want of pure water, and I determined to get it. I directed an artesian well to be made. It was done. They bored through sand, gravel, clay, and came to the underlying slate. This was bored through, and immediately there gushed up a stream of water which nothing could resist. I can supply hundreds with water. I supply all who ask for it." How much did it cost? asked I. *Five hundred dollars*, said he. Has it ever failed? *Only once*, was the reply. Is it *soft* water? No. It is hard water. I thought this *experience* was any thing but encouraging. Here, at a cost of \$500, a well has been made which has *once* failed, and which, abating the impurities of drainage, affords water no better than every body else gets.

I need not more than allude, here, to the other sources which have been named. Among these are Spot Pond,—the Middlesex Canal,—Charles River,—Long Pond. I do not enter into the controversies which have grown up out of this variety of sources which have been proposed. The *whence* must be left to engineers,—to commissioners who deserve confidence, and

are deeply interested in the prosperity of the city. Such commissioners have been appointed, and are at work in the execution of their commission. They have been directed to examine Long Pond, to learn if that will supply the city. It was surveyed some years ago, and a favorable report made of its water, both in regard to quality and quantity. The city government have done wisely, in the pressure of conflicting opinions, to appoint a new commission, which may confirm or correct the earlier reports. Strong convictions are daily expressed of the necessity of an aqueduct, — a CITY AQUEDUCT. A private water company, or many such companies, cannot answer the public demand, nor should such be permitted by the city to control either in price or quantity the supply of a necessary of life, yes, of that which is as necessary to the poorest, as to the richest amongst us. Let now the whole public want enter into the question, and give character to the answer which the whole people are about to make. If the execution of so beneficial a purpose involve some sacrifice, some expense to the rich, what occasion more worthy the act, than that which secures the public health, lengthens useful life, and diminishes and prevents poverty?

It is a noble work in which the city is now engaged. I have read the city documents concerning it with deep interest. They are full of facts showing how great is the public want,—how small will be the expenditure when compared with that want,—and how readily water may be procured. The people will soon be convened to express, by vote, what action shall be recommended to the government in regard to the matter. Let all come forward and record their vote on the subject. It will give little individual trouble. It may lead to the production of a work amongst us which will survive the generation which accomplishes it, and carry it forward, in honored memory, to the remotest future.

I remain your friend, &c.,

WALTER CHANNING.

Boston, Oct. 1st, 1844.

[On page 5, line 10, is a reference to gutters on the surface, instead of *sewers*, to carry off foul water and other refuse, in order that spring water may be kept pure. I have learned, that in New York, where this mode is adopted, it is now proposed to lay ample *sewers*, which are to be kept constantly clean by water from the Croton Works, for the promotion of the public health. W. C.]

TO THE CITIZENS OF BOSTON.

I HAVE carefully examined the "*Plea for Pure Water*," which *Dr. Channing* has been pleased to write, and address to me. I propose not to review it, in detail, but I cannot forbear the expression, in general, that I think it able, and sound, and excellently well adapted to promote the great object in view; and that a liberal circulation of it among our citizens would be highly expedient.

On receiving it, I felt that I could not be satisfied with its publication in the newspapers, from day to day in numbers, to be but partially read, and then cast aside, for the subject is of such vast importance, and the essay so clearly and unanswerably to the point, that it deserves to be placed in the best form, in the hands of all our intelligent people.

Cherishing these views, but not choosing to rely solely upon my *own* judgment, I consulted numerous friends of the "*water project*," who warmly sanctioned my opinion that it ought to be published and circulated in *pamphlet form*, in order that it might have that calm and sober consideration which it rightfully merits. In pursuance of this decision, and by the advice of friends, I arranged, with the consent of *Dr. Channing*, for the publication of the "*Plea*," in the mode I have described.

And here I might stop and let the matter rest, without further remark or comment, but that, as *Dr. Channing* has not entered minutely into an estimate of the cost of the contemplated enterprise, or set forth the "*modus operandi*" of its execution, and as these are points of great, if not of paramount importance to the public, at the hazard of being thought *officious*, I propose to state my views of the *probable* outlay, the manner in which it is proposed to carry on and accomplish the enterprise, and to treat of the *direct*, and the *indirect* income and advantages that may be expected to ensue.

And, first, of the *probable* cost of the enterprise. It may seem to be somewhat premature to undertake an estimate at this moment, as it may be expected that the commissioners appointed

for that purpose, will, at an early day, present us with the result of their labors. But, when it is considered that it is altogether a matter of uncertainty when the report of the commissioners will be made, and that our newspapers are teeming with exaggerated statements of the opponents of the project, carrying up the estimate of the cost to most unnatural and unreasonable amounts, varying from *four to eight millions of dollars*, without a semblance of proof of accuracy, it seems to me that the friends of the project should lose no time, nor leave any efforts unessayed to disabuse the public mind of the gross errors that are attempted to be palmed upon them. What are the facts in the case? What is the reasonable *probability* in the matter? And whence the disposition, and efforts, to swell up, so enormously, the estimates of the cost of the "*water project*?" Whence do these efforts come, and how far has actual investigation ruled in their production? These are questions, all having an important bearing on the matter. History, a minute knowledge of the past, is a stern and tolerably safe pilot in matters of this kind. It will not do to pass lightly over that which has been matter of honest and intelligent investigation,—that which has been made the subject of record, under circumstances not obnoxious to the suspicion of any taint of duplicity, or unfairness. And what is the history of the present case? Is there any doubt of its authenticity, of its perfect fairness? No man has the hardihood to aver it.

The facts are, and I rely upon them, a commission was established in 1837, consisting of *Baldwin, Treadwell and Hale*, to examine, estimate, and report upon the various sources whence an abundant supply of good water could be obtained for the city. Among other sources, the said commissioners reported their surveys and estimates of the cost of introducing water from Long Pond, in Natick and Framingham. As to the *quality* and *quantity* of the water, there was no doubt; the former was pronounced by them to be unexceptionable; and, as to the latter, they set forth that the source was amply sufficient to supply *much more* than double the amount of our present population. Since then, it has been discovered, by raising the dam at the outlet of the pond, which experiment was continued for many months, that a vast additional amount of water might be sequestered to an amount sufficient to meet the wants of a greatly increased population beyond what I have before named. These commissioners, two of them professional engineers, and the other intelligent and experienced, under the solemnity of the obligations which they had assumed, at the hazard of their reputations, as fair and faithful agents of an intelligent public, in the grave and important matter of a very large outlay of capital, reported as follows, namely:

That the cost of the whole enterprise would be *one million*

six hundred eighty-two thousand seven hundred and seventy-eight dollars, only! In making this estimate, which was presented to the public under the solemn sanctions of their stations, which I have described, they calculated on bringing the water to *Corey's Hill, in Brookline*, by a substantial brick aqueduct laid in cement, thence to be brought into the city in iron pipes, and to be distributed in iron pipes throughout the city to the extent of *sixty-two miles*. In their estimate bricks were put down at \$7 50 per thousand — they can now be had, at least, as low as \$7 per thousand — iron pipes at (as I have high authority for saying) *twenty dollars per tun* higher than present prices — cement at about double its present cost, and lead at $6\frac{1}{2}$ cents per pound, which can now be furnished as low as $3\frac{3}{4}$ cents per pound — water rights and land damages were put at \$110,000; and, to meet *contingencies*, 10 per cent. was allowed, amounting to the sum of *one hundred fifty-two thousand nine hundred and seventy-nine dollars*. At the time this estimate was made and presented to the public, it is believed labor was no cheaper than at the present time — probably it was about the same.

Now I ask, and confidently, too, with this estimate before him, made under the circumstances I have stated, if any man, having any pretensions to fairness and candor, is justified in attempting to delude the public by a confident "*bug-bear*" estimate of *four to eight millions of dollars*? The estimate I have described is *obviously* a fair one, taken in the general, and no man should seriously dispute it without entering into the *details*, and establishing their fallacy.

I am aware that, not improbably, it will be found at this later day, seven years having elapsed since the estimate was made, and our city greatly increased in population, a larger expense may be found necessary; and, too, that the present commissioners may recommend a more spacious aqueduct, and pipes of higher capacity, which may enhance the cost. Beyond this, I think it probable that the item allowed by the commissioners for water rights and land damages, is less than the result will prove to be necessary. But still, I think it *morally* certain, if not *mathematically* so, that under no circumstances, even with a vastly extended project from the one originally contemplated, the aggregate cost will not exceed *two millions and a half of dollars*. My *belief* is, that the cost will be much less; but I am willing to assume that it will reach that maximum; say \$2,500,000.

Against my hypothesis, I know I shall have to encounter the "*ad captandum*" argument of those who have a smattering knowledge of the famous "*Croton Works*," at New York. They will trumpet forth the numerous millions that work has cost, and make deductions accordingly. But the ready answer to such cavilling is, that there is no strict analogy in the two cases; for

it is matter of notoriety, that in the case of the Croton Works the line of aqueduct passes over a country entirely dissimilar to ours; that a constant succession of hills and deep ravines had to be encountered and overcome, involving vast and expensive structures, one of which, alone, it is estimated, will cost *a million and a quarter of dollars*; whilst our whole line, from Long Pond to Boston, is comparatively a dead level, on which there will be necessary but two bridges, or viaducts, involving only a cost of a few thousand dollars each. In short, whilst I admit the propriety and wisdom of availing of all the experience that has been had in the prosecution of the "*Croton Works*," of looking to the details of the cost of that work, of adopting and following the successful features of their action and policy, I can no more think of taking their actual and aggregate results as a correct guide, than I should of adopting as the standard of the cost of an elegant church, that of *St. Peter's*, in Rome, which, beyond a doubt, cost more than all the churches in the United States. But I will not dwell upon a point so perfectly within the compass of every man of intelligence, and which needs only actual investigation to satisfy the minds of the most querulous. I will only add, that I desire most heartily to meet in public, before a Boston audience, the man who will hazard his reputation by the espousal of a fanciful estimate of *eight*, or even of *four* millions of dollars.

I pass next to the *manner* of accomplishing the enterprise in view, and to the probable operation and effect of it. By many it has been supposed, and, indeed, it has been urged, that the friends of the project were disposed to prosecute the work at the city's expense, and that the outlay was to be furnished by a "*dry tax*" on the people! Beyond this, that the water once introduced into the city, it should be "*free as the air we breathe, to every body!*" Nothing could be more foreign to the views of the friends with whom I am acting than such opinions. For myself I propose no such thing; I never dreamed of it, and most confident I am that such a policy finds but feeble support in the minds of the intelligent and ardent friends of obtaining a supply of "*pure soft water*" for *Boston*.

My views are, and so far as I am informed, they correspond with those of the great mass of the advocates of the project, that, in the first place, the necessary charter shall be obtained from the Legislature in which it shall be provided, among other things, that a *permanent* board of commissioners shall be created, clothed with full powers to go on and execute the work; that they shall hold their offices by as permanent a tenure as the Justices of our Supreme Court; that they shall have full authority to issue and dispose of the scrip of the city, redeemable at distant periods, to such an amount as may be necessary to complete the

enterprise, including the interest that may accrue on the outlay during the prosecution of the work, and even for a longer period if found necessary, and that on the completion of the work a tariff of exactions shall be fixed and established for the use and supply of the water, by the Commissioners, and that the net avails of the said *Tax* shall, in pursuance of the provisions of the Charter, be *irrevocably sequestered* for the payment of the interest of the debt incurred, and for the gradual extinguishment of the same. In this way it will be seen that, for the present, not a dollar of additional tax upon our people will be necessary. The expense of the project will be kept entirely distinct from the common fiscal concerns of the city. The enterprise will stand upon its own bottom, bringing no immediate burden upon any man, and the only hazard will be its ultimate operation.

And who can, or who dares to doubt the final operation? Who can be so blind to the *probable future*, as not to anticipate with strong confidence that, in the lapse of a very few years, the rents from water will fully meet the interest of the outlay, and besides, furnish a handsome per centage to be applied to the extinguishment of the debt? So confident do I feel of this operation, so fully persuaded am I that it will be more than realized, that I should think it absolutely suicidal to forego or postpone the enterprise.

It is urged that this project of obtaining water "is a very good thing," but "it ought not to be undertaken by the city," that "far better would it be to leave it to *private corporations!*" How miserable and weak is such an assumption. What! leave the supply of the important element of water to our populous and noble city, to *private corporations!* The idea is preposterous in the extreme. I would as soon countenance the farming out the pure air of heaven, of placing it in the hands of a few men among us to be stintedly doled out *at a price*, to the numerous members of the human family. The argument is, that the cost of the water will be much greater if the enterprise is undertaken by the city, than if individuals undertake it.

The argument lacks soundness. It is not true. *The fact is, the reverse is true.* In either case, whether the project is undertaken by a private corporation, or by the city, its execution must, of necessity, be intrusted to a board of commissioners or agents. And what man in his sober senses can say that a commission composed of *three* or *five* men will be truer, more faithful, and more economical if they act for a *private corporation*, than they would be if acting for the whole city of Boston? As to the checks of oversight, and watchfulness, there would be more of it on the part of the whole city, than in the case of a diffuse private corporation. And then as to the comparative expense; every body knows that, in the present state of public opinion, if

a private corporation were to be got up for the object, even if it were practicable, it almost necessarily would follow that it would be composed of a vast number of the elite of our city, embracing many of our active business men, who would be influenced to take stock in the concern upon the principle of "*pro bono publico*," whose every dollar subscribed would be worth to them, at least 6 per cent. per annum; whereas, if the city undertakes, such is her credit, that beyond a doubt, she could command all the capital needed at a rate of interest not exceeding *four and a half per cent.*, and not improbably as low as four per cent.; thus making a saving of *twenty-five to thirty-three and a third per cent.* in the interest of the capital employed. This position is not only plausible, but it is literally true, as every practical and calculating man must admit if he candidly brings his mind to the subject.

And here I leave this branch of my subject, copious and fruitful as it is of affording the most ample ground of support to the doctrine I espouse, that of, by all means, and at any rate, making the project a *public*, rather than a *private* one.

It remains now only, that I should advert to the *probable* direct income that may be expected to result upon the completion of the work, and to notice, briefly, some of the incidental advantages consequent upon its accomplishment. And here, I am aware, I enter upon the broad field of conjecture. The exact operation of any great project that is future, cannot be mathematically fathomed. Still, it is not the less true that, taking for guides the varied and extensive experience that has been had in analogous enterprises in other cities, and the natural tendency and operation of effecting and introducing to the public a great and important improvement in the convenience and comforts of life, extending to all the individuals, of whatever rank or condition composing a community, it would seem, that at least an approximation to a correct estimate of what may be expected could be made and relied upon. I feel that it is fair, and safe, to act upon this principle; and that it is not visionary conjecture to expect certain inevitable results from the enterprise in question. It is hardly necessary for me to say, that my anticipations are that, in the present case, they can hardly fail of being of the most auspicious character; such as will put to the blush in their realization all those who now falter and hesitate about encouraging the beneficent project now before the public. On this ground I put the matter. However it may be thought by others, whatever doubts and misgivings may be cherished, virulent and heated as may be the opposition set up against the adoption of the project, and all the means that can be brought to bear against it, I hesitate not at all in declaring my settled belief to be, that the enterprise once accomplished, in the way I have

marked out, it will not only meet the *approbation* of our community, but will elicit and call forth their enthusiastic admiration. I pass from speculation and prophecy to specific details—to a calculation of dollars and cents.

It has been urged that if the water should be introduced into the city, the people would not avail of it; that an example has been furnished in the instance of the Jamaica Pond Company, that few, comparatively, take that water, which is all true. But, at the same time, the reason is obvious. The Jamaica Pond Co. furnish water to our people only in some of the lower parts of the city; conducted into their cellars, and lower rooms, and even in this miserable accommodation, but partial and unsteady supplies are furnished. Hence it is argued that the people would not take the water if brought to them! A most lame and false conclusion; for who does not see that the argument is entirely fallacious, inasmuch as that in the one case the accommodation is exceedingly limited, and precarious, whilst in the other, in the contemplated project, the supply will be abundant and constant, and in lieu of a *cellar*, or *kitchen* supply, nineteen twentieths of the houses in the city will be supplied to their very *attics*! And, instead of a parsimonious calculation of securing a supply for a *day*, or a *half day* to come, there will be, at all times, enough of water to justify its most exuberant use; enough not only to meet household wants, but a sufficiency to keep clean, and sweet, and wholesome, the side-walks and streets of the city.

But to the point of *Income*. The friends of the project, propose to impose a tax upon those who take and use the water, of *eight dollars* per annum, on each family of six persons. Our present population is, probably, at the present day, 115,000 persons. Now suppose the whole of our present population should take the water in the outset, and pay the tax; then it would follow that nineteen thousand and one hundred families would contribute to the enterprise, and that, at an exaction of only \$8 per family, the income, in the gross, would be *one hundred and fifty-two thousand and eight hundred dollars*! Again, suppose that only two thirds of our people should avail of the water, then the amount of income from this source would amount to \$101,856. In addition to this, it is a moderate calculation to assume that the extra quantity of water that would be wanted and taken by our numerous *taverners*, by *stblers*, by *truckmen*, for *steam purposes*, and, especially, for the supply of our *commercial marine*, would amount, if paid for in the same ratio that it is proposed to exact of families, to at least *fifteen thousand dollars*, which added to the former sum of \$101,856, presents an aggregate of about \$117,000! Further than this, it may be safely assumed, that by the time the works are completed our population will

have increased to 130 or 135,000 inhabitants, which increase might be relied upon to make up any deficiency that should happen in the estimate of consumption I have made.

I have assumed that the maximum cost of the enterprise will not exceed \$2,500,000, and that the money can be obtained at an interest not exceeding $4\frac{1}{2}$ per cent. per annum. If so, then the annual interest would amount to \$112,500; but, as not improbably the money could be commanded at an interest of 4 per cent., then the annual amount would be but *one hundred thousand dollars*, a sum of money for a rich and populous city to pay utterly insignificant in comparison with the inestimable blessing of a liberal supply of pure soft water.

A few words of the indirect benefits of the enterprise and I have done. I forbear remark upon the comfort, the cleanliness and the health of the city, for these points have already been ably handled and set forth by Dr. Channing. The reduced value of *fire insurance* consequent upon the adoption of the project that would certainly follow, is worthy of the serious consideration of the public. A few months since I wrote to a very intelligent gentleman in New York, inquiring of him what was the effect of the introduction of the Croton water into the city on the rates of fire insurance? He took a week to answer me, saying that he "had delayed thus long, in order to make such inquiries as to be enabled to furnish accurate information," — he advised me, "*that the value of fire insurance had fallen full fifty per cent!*" In 1837, Messrs. *Treadwell, Baldwin and Hale*, Water Commissioners for the city, reported that "the amount of property in the city of Boston, exposed to the hazard of destruction by fire, is probably not less than \$75,000,000. Admitting therefore that the risk of insurance on this property is at this time equal to 4-10ths of one per cent., and that the proposed supply of water would reduce this risk by one third, *the saving which would then be made to the inhabitants of the city in the risk of loss by fire would be equal to one hundred thousand dollars per annum!*" At the present time no one can doubt that the amount of property at risk in the city is as much as \$90,000,000, and if we adopt the estimate of the Commissioners of 1837, it will appear, that a saving would be produced in the reduction of the value of insurance *to the amount of one hundred and twenty thousand dollars per annum!* If any one cavils at this estimate, or doubts its soundness, I object not in the least to cutting down the result to *the amount of one half*, and then there will be a saving left of sufficient magnitude to have a most important bearing upon the wisdom, and propriety of embarking in the enterprise.

Another and most important consideration is, and it should be constantly borne in mind, that the work in contemplation is

not only intended for the present day, but is to be fitted and calculated for Boston, *as she will be centuries to come*; and that, beyond all question, for a long period hence, there will be a great and rapid increase of our population; thus creating an annual increased demand for water which cannot fail so to enlarge the income from water rents, as at no distant period to justify the reduction of the tax to such an extent that no one will feel it to be a burden.

I have set forth these views and calculations in the honest belief of their soundness. Nay, more, so far am I from believing them extravagant, and visionary, and likely to prove so, I cherish anticipations of a vastly more favorable result than I have ventured to predict. My confidence is not the result of a loose view of the subject, but that of a careful, and rigid investigation of the whole matter. I desire, most ardently, that the numerous strong, clear, and powerful minds that are to be found in our community, may be directed to a thorough examination of the subject, for sure I am, that if this is done, the public will no longer falter, and doubt, and withhold their support of a measure so vitally important to the true interests of our city.

HENRY WILLIAMS.



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